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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,892

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PARK, C - 2 PCT

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EXAMINER

KARACSONY, ROBERT

ART UNIT

PAPER NUMBER

2821

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,892	<b>Applicant(s)</b> PARK, CHAN GOO	
	<b>Examiner</b> ROBERT KARACSONY	<b>Art Unit</b> 2821	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 8-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/26/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 8-10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on December 31, 2007.

### ***Claim Objections***

2. The claims are objected to because they include reference characters which are not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

3. Claim 1 is objected to because of the following informalities:

4. In line 29, claim 1, the limitation "the gyro sensor R2" lacks proper antecedent basis. For examination purposes, examiner interprets the limitation as "a second gyro sensor (R2)".

5. In line 31, claim 1, the limitation "the gyro sensor R1'" lacks proper antecedent basis. For examination purposes, examiner interprets the limitation as "a first gyro sensor (R1')".

6. In line 29, claim 1, Examiner requests for Applicant to replace "a angular" with --an angular--.

7. In line 34, claim 1, Examiner requests for Applicant to replace "R2 and R1'" with --the first and second gyro sensors (R1') and (R2)--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 2, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Sekiguchi Yukichi* (JP 07-050514, hereinafter *Yukichi*) in view of Murakoshi Takao (JP 07-154128, hereinafter *Takao*).

10. Claim 1: *Yukichi* teaches a satellite tracking antenna system mounted to a moving object to track a satellite position, which includes an antenna unit (6) for receiving a satellite signal; a gyro sensor unit (10 and 16) for detecting the movement of a moving object; a control board (8) for receiving intensity information of the satellite signal from the antenna unit, receiving moving information of the moving object from the gyro sensor unit, and tracking the satellite position according to the received intensity and moving information (Abstract); and an azimuth angle motor (4) and an elevation angle motor (7) for rotating the antenna unit to be directed to the satellite according to a control signal generated from the control board (Abstract), the system comprising: in the gyro sensor unit a second gyro sensor (10) for measuring a angular velocity variable in an elevation angle of the moving object is arranged horizontally and a first gyro sensor (16) for measuring an angular velocity variable in an azimuth angle of the moving object is arranged vertically, orthogonal to each other (fig. 1); and, the first and second gyro sensors

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transmit the angular velocity variable in the elevation angle and in the azimuth angle to the control board (Abstract).

*Yukichi* fails to teach the gyro sensor unit is mounted on plane perpendicular to a satellite-directed target point of the antenna unit. However, *Takao* teaches directing an antenna in an excellent way comprising two gyro sensors, one for azimuth controller and the other for elevation control, each mounted on a plane perpendicular to a satellite-directed target point of an antenna unit (fig. 1, Abstract). The claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the technique of *Takao* with the satellite antenna of *Yukichi* since the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

Claim 2: If the modifications to the invention of *Yukichi* were made, as discussed above, one with ordinary skill in the art would have realized the first and second gyro sensors R1' and R2 contained in the gyro sensor unit are arranged to be orthogonal to each other (fig. 5 of *Takao*) to a back surface of an antenna plate (part of 6 that supports the antenna elements) for supporting an antenna contained in the antenna unit, in which the first gyro sensor is arranged in a horizontal direction and the second gyro sensor is arranged in a vertical direction (fig. 5 of *Takao*).

Claim 4: If the modifications to the invention of *Yukichi* were made, as discussed above, one with ordinary skill in the art would have realized wherein the elevation angle motor is mounted to a motor fixing unit (5 of *Yukichi*), which is bent and formed on one surface of a fixed base plate (2 of *Yukichi*) capable of being horizontally rotated by a vertical axis (3 of *Yukichi*) via

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a bearing (the rotator 4 of *Yukichi* is that of a roller type, see fig. 1, therefore, inherently comprises bearings) in an antenna lower cover detachably covered with a dome-shaped cover (Examiner takes official notice that antennas mounted on moving objects, such as automobiles, are mounted within a radome covered enclosure for protection against debris).

Claim 7 is similar in scope as claim 1 and is therefore rejected for substantially the same reasons.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Yukichi* in view of *Takao* as applied to claim 1 above, and further in view of *Uematsu et al.* (US 5,519,409, hereinafter *Uematsu*).

Claim 3: *Yukichi* in view of *Takao* teach all of the limitations of claim 1, as well as, the azimuth angle motor is mounted onto a fixed base plate (2 of *Yukichi*) capable of being horizontally rotated by a vertical axis (3 of *Yukichi*) in an antenna lower cover detachably covered with a dome shaped cover (Examiner takes official notice that antennas mounted on moving objects, such as automobiles, are mounted within a radome covered enclosure for protection against debris), mounts a bearing (the rotator 4 of *Yukichi* is that of a roller type, see fig. 1, therefore, inherently comprises bearings) for use in the vertical axis onto a top surface of the base plate. *Yukichi* fails to teach the motor transmits power to the vertical axis exposed toward a lower part of the base plate via a timing belt connected to a lower drive pulley. However, *Uematsu* teaches rotating a satellite antenna comprising a timing belt pulley system (fig. 3). The claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time

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the invention was made to have used the timing belt pulley system of *Uematsu* as the azimuth rotation means of *Yukichi* since the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

***Allowable Subject Matter***

12. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claim 5: Prior art (Spano et al. US 6,204,823) teaches a timing belt (74, fig 2) fixes its one end to both ends of a semi circular pulley (76, fig. 2), and is connected to a drive pulley (68a, fig. 2) of an elevation angle motor (68, fig. 2) via a separation prevention groove formed on a circumference of the semi circular pulley, such that the elevation angle of the antenna plate is controlled (col. 5/lines 38-55).

However, prior art fails to teach the semicircular pulley is fixed by first and second fixed plates to one side of a back surface of an antenna plate.

14. Claim 6 would be allowable for at least depending on allowable claim 5.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT KARACSONY whose telephone number is (571)270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./

Examiner, Art Unit 2821

/Hoang V Nguyen/

Primary Examiner, Art Unit 2821